

**From:** [Schaub, Mike](#)  
**To:** [Hodges, Joe A](#)  
**Subject:** RE: Technical assistance: Louisiana statewide freshwater ammonia criteria  
**Date:** Monday, July 13, 2020 3:38:00 PM

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Thanks Joe.

A few thoughts in response:

- The sliding scale tables would be good to include within the BE as reference material in order for us to evaluate specific areas for individual species if necessary.
  - OK, and will do!
- The proposed action should have specific details for ammonia criteria values (specifically the normalized acute and chronic values used throughout the BE to assess effects for species).
  - I assume by “action”, you mean Louisiana’s adoption of the criteria into their water quality standards (WQS)? And can you clarify what “specific details” LDEQ would need to provide? The criteria values used in the effects analysis (1.9 (chronic criterion) and 17 (acute criterion)) were based on standardized values for pH and temp to get a sense of whether minimum effects thresholds for T/E species were above or below the projected criterion under the same pH and temp conditions. As noted on page 9 and 10 of the BE: “The acute effects assessment described in this document was developed using toxicity data normalized to reference conditions (pH = 7, temperature = 20°C) and compared to the corresponding CMC [acute criterion = 17mg/L] in those same reference conditions. *Because species sensitivity and the CMC both change similarly across water chemistries, conclusions based on reference conditions translate to other water chemistries.*” So, under other conditions (different values of pH and temp), the relationships and relative differences among criteria and effects thresholds would be similar. So, in essence, LDEQ will be adopting those tables I sent you (but expressed as the underlying equations used to generate them), which are generally self-explanatory. Given this, I’m not entirely sure what additional details should be provided in the WQS. Please let me know if I’ve misunderstood what you’re looking for.
- If acute or chronic ammonia criteria at the normalized values will differ from the 2013 values referenced in the draft BE, this should be noted within the final BE in order to re-assess potential impacts for species and critical habitats.
  - Can you clarify what you mean by “criteria at normalized values” and “the 2013 values”? Again, LDEQ would be adopting a sliding scale of values from EPA’s 2013 document. Our impacts analysis focused on a single set of criteria values under “reference” conditions (1.9 and 17mg/L), but the *relationships* between our criteria, and the minimum effects thresholds for listed species, at the far ends of the spectrum of pH and temp will be the same. So our conclusions regarding

potential impacts won't change with different criteria and effects thresholds than those listed in the BE. Again, if I'm missing the point of your comment, please let me know.

**Mike Schaub**  
**Water Quality Standards Program**  
**Water Division**  
**US EPA Region 6-Dallas**  
**214-665-7314**

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**From:** Hodges, Joe A <joe\_hodges@fws.gov>  
**Sent:** Friday, July 10, 2020 2:52 PM  
**To:** Schaub, Mike <Schaub.Mike@epa.gov>  
**Subject:** Technical assistance: Louisiana statewide freshwater ammonia criteria

Hey Mike,

Here are some comments regarding the draft ammonia BE:

- The sliding scale tables would be good to include within the BE as reference material in order for us to evaluate specific areas for individual species if necessary.
- The proposed action should have specific details for ammonia criteria values (specifically the normalized acute and chronic values used throughout the BE to assess affects for species).
- If acute or chronic ammonia criteria at the normalized values will differ from the 2013 values referenced in the draft BE, this should be noted within the final BE in order to re-assess potential impacts for species and critical habitats.

Thanks,

Joe A. Hodges  
Fish and Wildlife Biologist  
U.S. Fish & Wildlife Service  
Louisiana Ecological Services  
Mississippi-Basin Region  
200 Dulles Drive  
Lafayette, LA 70506  
337.291.3109 (office)